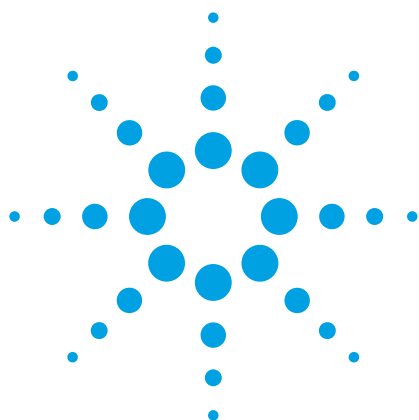




Agilent Multimode Source
**Simultaneous ESI and APCI for
maximum throughput**



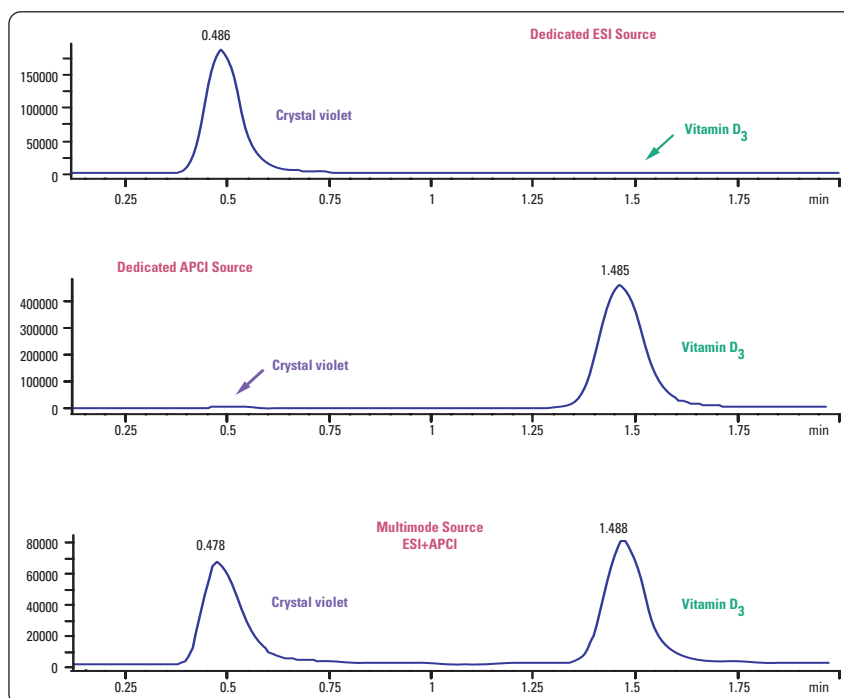
Agilent Technologies

Simultaneous ESI and APCI for maximum throughput

The Agilent multimode source for the LC/MSD is a breakthrough in LC/MS technology, delivering *simultaneous* electrospray ionization and atmospheric pressure chemical ionization, classical spectra, and excellent sensitivity. It maximizes throughput by eliminating the need to run samples twice to ensure all components are identified.

Eliminate the guesswork and reanalysis

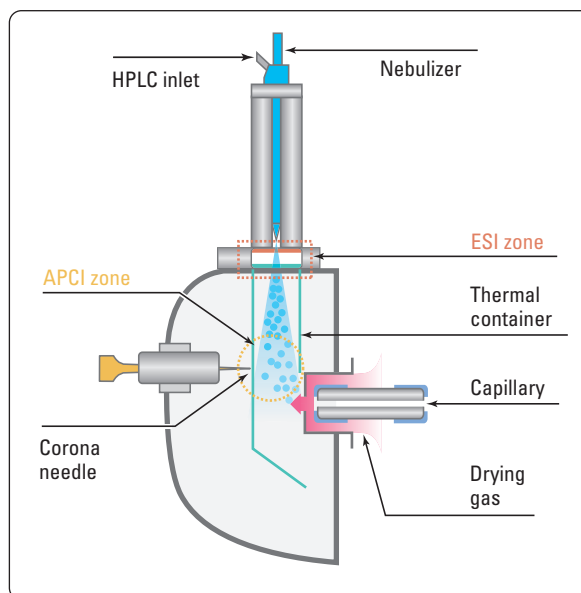
Not every compound responds to every ionization technique. Some compounds ionize only by electrospray ionization (ESI). Other compounds respond only to atmospheric pressure chemical ionization (APCI). When you analyze unknowns, you do not know ahead of time which mode to choose. Even when looking for target compounds, you need to know if an unexpected impurity is present. To be sure, you must exchange sources and reanalyze. The Agilent multimode source is the only ion source capable of simultaneously acquiring ESI and APCI data—making reanalysis a thing of the past.



Simultaneous ESI and APCI maximizes throughput by eliminating the need to exchange sources and reanalyze samples

Separate zones, simultaneous ionization

ESI and APCI are very different processes and require very different conditions for optimum performance. Only a truly revolutionary source could accomplish simultaneous, high-performance ESI and APCI. The innovative Agilent solution is a single source with two separate, optimized zones—one for ESI and one for APCI. Ions from both ionization modes are analyzed simultaneously by the mass spectrometer.



Multimode source incorporates optimized ESI and APCI zones

Polarity switching extends coverage

The Agilent multimode source can switch ion polarities on a scan-to-scan basis. With this rapid polarity switching, you can acquire positive and negative ESI and APCI data in a single run, significantly increasing coverage over single-mode ion sources.

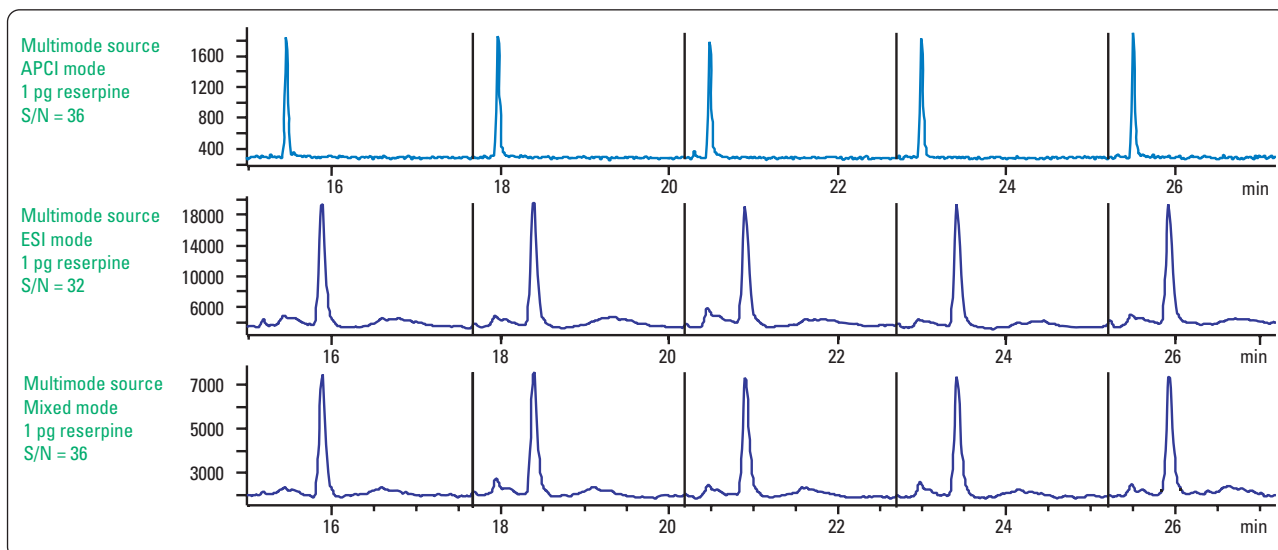
| Compound | APCI Source | | ESI Source | | Multimode Source | |
|-----------------------------|-------------|------------|------------|------------|------------------|------------|
| | Positive | Negative | Positive | Negative | Positive | Negative |
| Acetazolamide | — | D | — | D | — | D |
| Butyl-4-aminobenzoate | D | — | D | — | D | — |
| Cortisone | D | D | D | — | D | D |
| Gemfibrozil | — | D | — | D | — | D |
| Hexahydro-...-dione | D | — | D | — | D | — |
| Hydroflumethiazide | — | D | — | D | — | D |
| Indole | D | — | — | — | D | — |
| Iodipamide | — | — | — | D | D | D |
| Labetalol | D | D | D | D | D | D |
| Lidocaine | D | — | D | — | D | — |
| Morin | D | D | D | D | D | D |
| Paclitaxel | — | — | D | — | D | — |
| Phenylbutazone | D | D | D | D | D | D |
| Procainimide | D | — | D | — | D | — |
| Progesterone | D | — | D | — | D | — |
| Sulfamethoxazole | D | D | D | D | D | D |
| Tolazamide | D | D | D | D | D | D |
| Uracil | — | D | — | — | — | D |
| Detected by polarity | 67% | 56% | 67% | 50% | 78% | 61% |
| Detected by source | 89% | | 89% | | 100% | |

D = compound detected

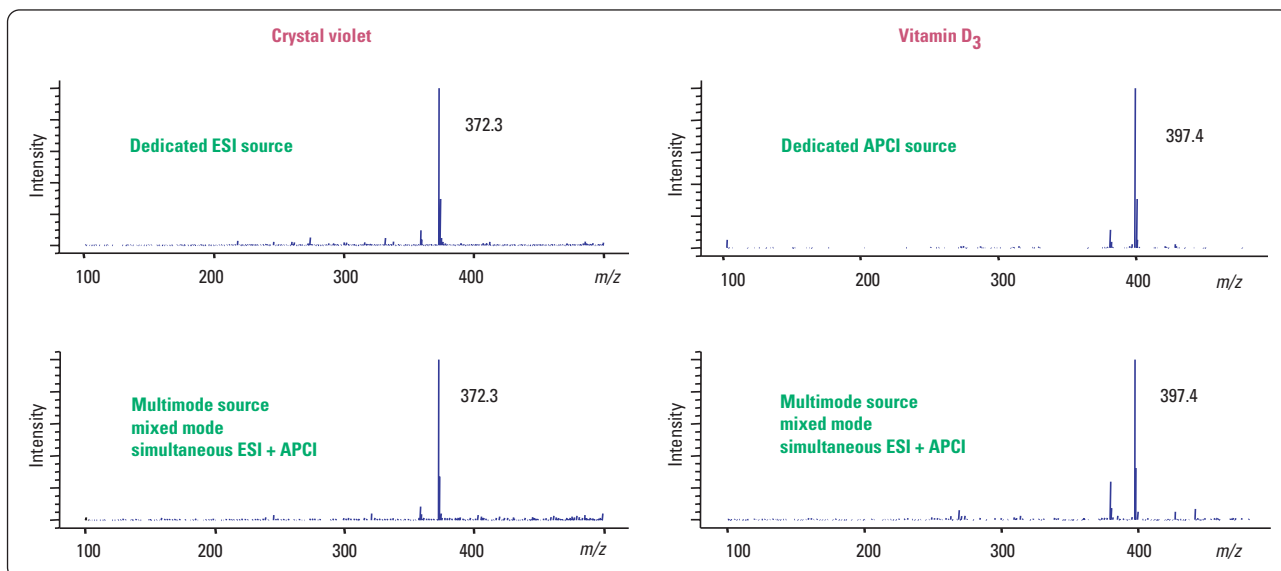
No compromises

Some sources try to provide an approximation of true simultaneous acquisition by switching back and forth between ESI and APCI modes. After subtracting the switching dead time, a switching source scans less than 50% of the time in each ionization mode. The inevitable result is a loss of data, especially when doing fast chromatography with narrow peaks.

The Agilent multimode source makes no such compromises. It can acquire data in both ionization modes 100% of the time. There is no loss of data, and sensitivity in mixed (simultaneous acquisition) mode is very close to the sensitivity provided by Agilent's state-of-the-art, individual ESI and APCI sources.



Operating in the mixed ionization mode entails minimal loss of sensitivity



Spectra from the multimode source are indistinguishable from those generated on dedicated sources

Familiar spectra

The Agilent multimode source delivers spectra identical to the spectra from dedicated sources. In cases where a compound responds well to both ionization modes, the electrospray process dominates, but you can operate the multimode source in ESI-only and APCI-only modes if you want to obtain a specific type of mass spectrum.

Accommodates a wide range of LC flows

Powerful infrared emitters in the Agilent multimode source provide tremendous drying capacity so you never need to compromise on LC flow rate. The multimode source can accommodate anything from 1-mm columns at 50 μ L/min to 4.6-mm columns at 2 mL/min. There is no need for tricky, unreliable flow splitting, even at 2 mL/min of 100 percent water.

Reduced drying gas consumption

The same infrared emitters that help the multimode source accommodate a wide range of LC flows also drastically reduce drying gas consumption. At high flow rates, the Agilent multimode source consumes less than half the drying gas of a dedicated ESI source.

For more information

For more information about the Agilent multimode source, call toll free:

1-800-227-9770 (U.S. and Canada)

In other countries, please call your local Agilent Technologies analytical sales office or authorized Agilent Technologies distributor.

You can also visit our site on the World Wide Web at:

www.agilent.com/chem

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